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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,317	12/23/2003	Yasuhiro Nakamura	K06-16549M/TBS	5570
21254	7590	05/18/2006		
MCGINN INTELLECTUAL PROPERTY LAW GROUP, PLLC 8321 OLD COURTHOUSE ROAD SUITE 200 VIENNA, VA 22182-3817			EXAMINER BOEHLER, ANNE MARIE M	
			ART UNIT 3611	PAPER NUMBER

DATE MAILED: 05/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/743,317	Applicant(s) NAKAMURA ET AL.	
	Examiner Anne Marie M. Boehler	Art Unit 3611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-10 and 14-19 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3,4,8-10,14 and 15 is/are allowed.
- 6) ☒ Claim(s) 1,2,5-7 and 16-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 3611

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 5, 7, 16, 17 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Etsuro (JP 2001108025).

Etsuro shows a power steering system with a drive gear 71 on the output shaft of motor 6. A bearing 17 supporting the end of drive gear 71 distal from the motor is spring biased toward the drive gear by a resilient member. Figure 5 shows an embodiment of the resilient member that includes a curved leaf spring 31 that is longer than the outer periphery of the bearing and that has ends 31c inserted to a recess in the bearing support 81.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Etsuro.

Etsuro shows the ends of the spring inserted into a recess that is proximal to the axis of the driven gear relative to the drive gear. However, it would have been an obvious reversal of parts to position the recess on the opposite side of the support for better access to the spring ends.

5. Claims 1, 5-7, and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al. (PGPub. 2001/0040067) in view of Eda (PGPub. 2004/0245040).

Murakami shows an electric power steering system including a drive gear 7 on the output shaft of motor 6 and in mesh with a driven gear 72. A bearing 10 supports an end of the drive gear, distal the motor. The bearing is mounted in a support portion 8 by an elastic member or spring 81 that biases the drive gear in the direction of the driven gear. Murakami teaches, in paragraph 124, that the elastic member may be formed of a plate spring formed of metal. In paragraph 125, Murakami teaches the spring may also be used to reduce rattling in the axial direction and prevent backlash.

It is not clear from the Murakami disclosure if the plate spring is longer than the outer periphery of the bearing.

Eda shows a spring mounted to support an end of a drive gear 2. Eda shows several embodiments, including one that is an elastic member, similar to that of Murakami. An alternative to the elastic member, taught by Eda, is the leaf spring, shown in Figures 18A, 18B. The curved leaf spring of Eda is clearly longer than the outer periphery of the ring it surrounds.

It would have been obvious to one of ordinary skill in the art to replace the elastic member of Murakami with a leaf spring that is longer than the peripheral length of the bearing, as taught by Eda, in order to provide an inexpensive and simple to manufacture alternative spring.

6. Claims 3, 4, 8-10, 14, and 15 are allowed.
7. Applicant's arguments filed January 20, 2006 have been fully considered but they are not persuasive.

Applicant argues that the amended claim language places the claims in condition for allowance. In particular, applicant indicates that the recitation of the "curved leaf spring contacts

the outer bearing and substantially a whole intermediate portion of said curved leaf spring except opposite end portions of said curved leaf spring contacts said inner surface of said support portion” distinguishes over the prior art of record. The examiner disagrees. Neither applicant’s detailed description nor the claims have defined what constitutes “substantially a whole intermediate portion” and “end portions”. As indicated previously, applicant’s disclosed invention clearly includes significant gaps between the spring and the bearing and between the spring and the support portion. Applicant’s drawings show a central or intermediate portion of the spring in contact with the inner surface of the support, but there is no definition in the specification or claims of where the intermediate portion ends and the end portions begin. The claim language merely requires the leaf spring to be “fitted along” the space between the bearing and support and contacting the outer peripheral surface of the bearing. The claim does not recite the intermediate portion of the spring being in contact with the outer bearing surface, only that the spring be in contact at some point.

Etsuro shows, in Figure 5, a leaf spring 31 fitted between bearing 17 and support portion 8. The central intermediate portion of the spring (shown as the top of the spring) is continuously in contact with the inner surface 81 of support portion 8. Since applicant has failed to define the extent of the intermediate portion, the smaller central portion of the spring corresponds to the intermediate portion as claimed. End portions 31b, 31c, have points 31b that contact the outer periphery of the bearing and opposite ends 31c that fit within a recess in the support portion. Therefore, Etsuro teaches all of the claimed features, as broadly recited.

Applicant argues that the combination of Murakami and Eda fail to meet his claimed invention. He states that Murakami fails to teach a leaf spring and Eda fails to make up the

Art Unit: 3611

deficiencies of Murakami. Applicant states that Eda does not teach a leaf spring. The examiner disagrees. Eda shows a flat, wide spring 119 that meets the broad definition of a leaf spring. The examiner agrees that the spring 119 is coiled, but that does not negate the fact that it is a leaf spring. Also, since applicant has not clearly defined, in his specification or claims, the extent of his "intermediate portion", other than that it is between the end portions, the outer curved portion of the spring 119 of Eda meets applicant's broad definition of an "intermediate portion" between end portions of the spring. That outer curved portion extends continuously along the inner surface of support 114, as presently claimed.

Applicant indicates that there is no motivation to substitute the leaf spring of Eda for the elastic member of Murakami. The examiner disagrees. Eda states in paragraph [0130] that the "spiral spring 119 is adopted as a substitute for the elastic body 113 of another embodiment. Murakami shows an elastic body fitted between the support 22 and bearing 10 that is similar to the elastic body of Eda. Eda also states that in this construction the "same effects as those in the first embodiment of the second invention [Fig. 13A] can be expected". The elastic body, however, must be precisely sized to fill the space and secured in place along its periphery. The leaf spring, however, can fit a range of volumes. Therefore, it would have been obvious to replace the elastic spring member of Murakami with a leaf spring of the type taught by Eda, in order to facilitate manufacture and expect to achieve the same result.

Therefore, the rejections based on the Etsuro, Murakami, and Eda references is being maintained.


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne Marie M. Boehler whose telephone number is 571-272-

Art Unit: 3611

6641. The examiner can normally be reached on 7:30-5:00, Monday-Thursday, and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley Morris can be reached on 571-272-6612. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 5/12/06
Anne Marie M. Boehler
Primary Examiner
Art Unit 3611

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